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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,219	04/13/2004	Shumpei Kawasaki	101-9409J	6297

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EXAMINER	
CHANKONG, DOHM	
ART UNIT	**PAPER NUMBER**
2152	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/824,219	KAWASAKI ET AL.	
	Examiner	Art Unit	
	Dohm Chankong	2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 January 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *17-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/29/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1> This action is in response to Applicant's remarks, filed 1.25.2007. Claims 17-22 are presented for further examination.

2> This is a non-final rejection.

Response to Arguments

3> Applicant points to the standby control register and the various operation modes discussed in paragraph 120 of the application. Applicant's arguments with respect to the rejection(s) of claim 17 under §112 have been fully considered and are persuasive. Applicant is advised however to amend the claim to more clearly define the instant invention. Applicant's specification specifically refers to a "mode register" and "operation modes" in reference to control of the SDRAM.

According to Applicant's remarks, the "mode register" claimed in claim 1 does not refer to the "mode register" in the Applicant's specification but rather to the "standby control register." The claim does not disclose a "standby control register." While an amendment is not required, it would be beneficial to more clearly describe the invention and avoid future confusion in interpreting the claim language.

Based on the foregoing remarks, the §112 rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of new prior art.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4> Claims 17-22 are rejected under 35 U.S.C §102(e) as being anticipated by Totsuka et al, U.S Patent No. 6.715.090 ["Totsuka"].

5> As to claim 17, Totsuka discloses a data processor formed on a single chip [Figure 1], comprising:

a central processing unit executing a plurality of instructions [Figure 1 «item 102» | abstract];

a clock pulse generator generating a plurality of clock signals [column 4 «lines 26-32»]; and

a mode register accessed by the central processing unit [column 13 «lines 5-14»],

wherein the data processor operates in accordance with a plurality of operation modes based on the mode register, wherein the plurality of operation modes comprise operation modes of the data processor [abstract | column 2 «lines 21-37»],

wherein the operation modes include a first operation mode, a second operation mode, and a third operation mode [column 3 «line 58» to column 4 «line 4» | column 12 «lines 59-62»],

wherein the central processing unit executes instructions and receives a clock signal from the clock pulse generator in the first operation mode [column 4 «lines 5-8»],

wherein the central processing unit and the clock pulse generator halt operation in the second operation mode [column 4 «lines 9-14»], and

wherein the central processing unit halts executing the instructions and the clock pulse generator generates clock signals in the third operation mode [column 4 «lines 15-25»].

6› As to claim 18, Totsuka discloses the data processor including a control terminal, and wherein the data processor changes operation from the second operation mode to the first operation mode in response to the control terminal receiving a predetermined level signal [column 12 «line 63» to column 13 «line 30»].

7› As to claim 19, Totsuka discloses the data processor includes an external interrupt receive terminal which receives an interrupt request from outside of the data processor, and wherein the data processor changes operation from the second operation mode to the first operation mode in response to the external interrupt receive terminal receiving a predetermined level signal [column 7 «lines 41-50»].

8> As to claim 20, Totsuka discloses the data processor includes a reset terminal, and wherein the data processor changes operation from the second operation mode to the first operation mode in response to the reset terminal receiving a predetermined level signal from outside of the data processor [column 4 «lines 20-25» | column 12 «line 63» to column 13 «line 30»].

9> As to claim 21, Totsuka discloses the clock pulse generator halts providing a generated clock signal to the central processing unit in the third operation mode [column 3 «line 66» to column 4 «line 4»].

10> As to claim 22, Totsuka discloses a data processor including a data transfer controller that controls data transfer between the data processor and outside of the processor, wherein the plurality of operation modes further includes a fourth operation mode, and wherein the clock pulse generator provides a clock signal to the central processing unit and halts providing a generated clock signal to the data transfer controller in the fourth operation mode [Figure 14 «item 931» | column 13 «lines 15-20» where : Totsuka discloses that all clocks are stopped; this disclosure necessarily implies that clocks to Totsuka's data transfer controller are also stopped].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11> Claims 17-22 are rejected under 35 U.S.C. 103(a) as being obvious over Uchiyama, U.S Patent No. 5.574.876 in view of Totsuka.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

12> As to claim 17, Uchiyama discloses a data processor formed on a single chip, comprising:

a central processing unit executing a plurality of instructions [Figure 2 «item 101» : MPU];

a clock pulse generator generating a plurality of clock signals [Figure 1 «items 103, 150, 151, 152»]; and

a mode register accessed by the central processing unit [Figure 5A «item 505» : CMR | column 5 «lines 58-59»],

wherein the data processor operates in accordance with a plurality of operation modes based on the mode register [abstract],

wherein the operation modes include a first operation mode, a second operation mode, and a third operation mode,

wherein the central processing unit executes instructions and receives a clock signal from the clock pulse generator in the first operation mode [column 4 «lines 56-61» | Figure 1 «item 150»],

wherein the central processing unit and the clock pulse generator halt operation in the second operation mode [column 4 «lines 28-40» | column 5 «lines 58-64»], and

wherein the central processing unit halts executing the instructions and the clock pulse generator generates clock signals in the third operation mode [column 4 «lines 28-40» | column 5 «lines 58-64» | column 9 «lines 14-21»].

Uchiyama does not expressly disclose that the operation modes are based on the mode register and comprise operation modes of the data processor.

13› In the same field of invention, Totsuka is directed towards a data processor formed on a single chip [Figure 1]. The chip contains a mode register that mark a plurality of operation modes, the operation modes comprising operation modes of the data processor [abstract |

column 2 «lines 21-37» | column 13 «lines 5-14»]. It would have been obvious to one of ordinary skill in the art to incorporate Totsuka's teachings of a processor's operation modes such as stand-by or sleep into Uchiyama. Totsuka improves upon Uchiyama's data processor to enable smooth transitions between operation modes of the data processor [column 2 «lines 38-59»].

14› As to claims 18-22, see final rejection, filed 1.26.2006.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dohm Chankong whose telephone number is 571.272.3942. The examiner can normally be reached on Tuesday-Friday [7:30 AM to 4:30 PM].

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571.272.3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DC

BUNJOB JAROENCHONWANIT
SUPERVISORY PATENT EXAMINER